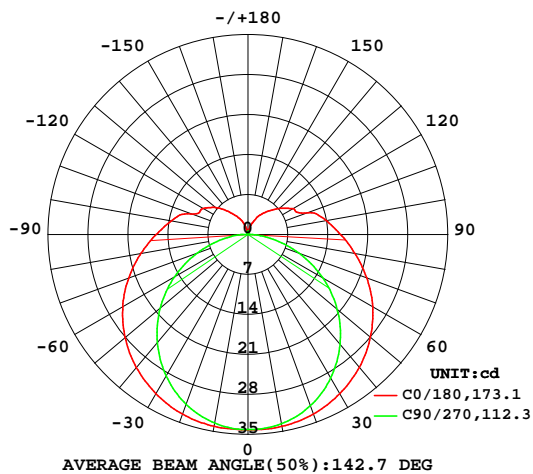


## LUMINAIRE PHOTOMETRIC TEST REPORT

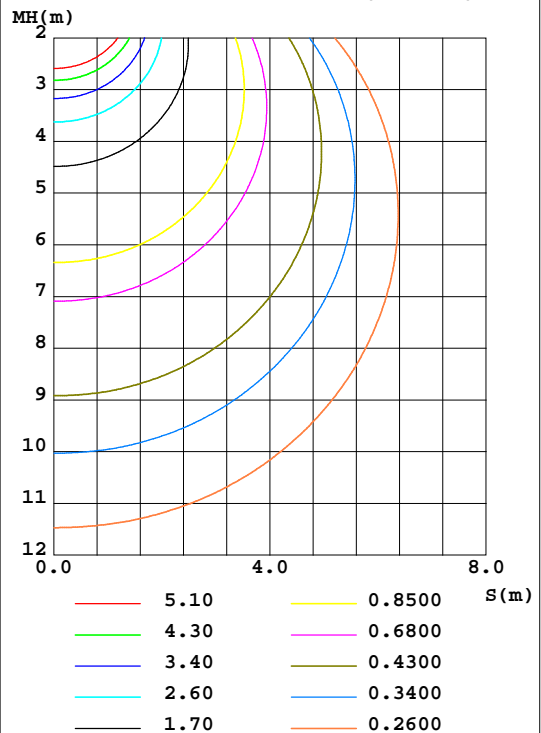
Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 35.77 lm/W			
MODEL	NNS1224	I <sub>max</sub> (cd)	34.20	S/MH(C0/180)	1.41
NOMINAL POWER(W)	4	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	157.38	h UP,DN(C0-180)	9.3,40.8
NOMINAL FLUX(lm)	157.382	CIE CLASS	SEMI-D.	h UP,DN(C180-360)	9.1,40.8
LAMPS INSIDE	1	h up(%)	18.4	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	h down(%)	81.6	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

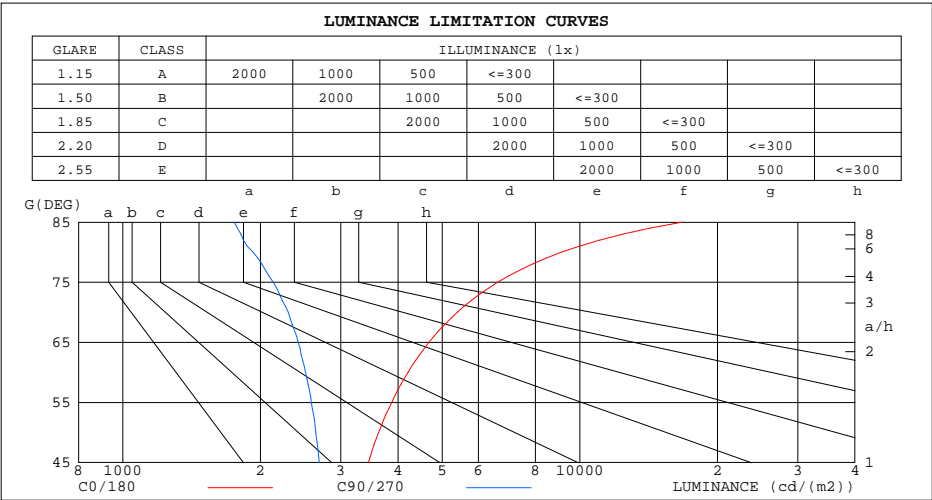
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	34.11	33.66	34.09	33.53					0~ 10	3.248	3.248	2.06,2.06
20	33.46	31.92	33.49	31.65					10~ 20	9.425	12.67	8.05,8.05
30	32.17	29.01	32.20	28.65					20~ 30	14.61	27.29	17.3,17.3
40	30.35	25.10	30.42	24.74					30~ 40	18.26	45.54	28.9,28.9
50	27.99	20.39	28.07	20.05					40~ 50	20.05	65.59	41.7,41.7
60	25.24	15.08	25.30	14.86					50~ 60	19.85	85.44	54.3,54.3
70	22.14	9.444	22.23	9.370					60~ 70	17.81	103.3	65.6,65.6
80	18.99	4.020	19.01	4.147					70~ 80	14.39	117.7	74.8,74.8
90	16.23	0.5971	16.11	1.090					80~ 90	10.75	128.4	81.6,81.6
100	13.99	0.1223	13.69	0.1416					90~100	8.383	136.8	86.9,86.9
110	11.22	0.1872	10.63	0.1454					100~110	6.788	143.6	91.2,91.2
120	9.094	0.2641	9.138	0.1867					110~120	4.869	148.4	94.3,94.3
130	7.126	0.3284	7.365	0.2768					120~130	3.797	152.2	96.7,96.7
140	5.280	0.3734	5.216	0.3088					130~140	2.549	154.8	98.4,98.4
150	3.760	0.4314	3.476	0.3894					140~150	1.517	156.3	99.3,99.3
160	2.086	0.5282	1.976	0.4825					150~160	0.7611	157.1	99.8,99.8
170	0.5605	0.5966	0.7158	0.5793					160~170	0.2580	157.3	100,100
180	0.5343	0.6116	0.4957	0.5987					170~180	0.0555	157.4	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



LUMINANCE cd/(m2)		
G(180)	C0/180	C90/270
85	16792	1754
80	9113	1929
75	6610	2133
70	5394	2301
65	4674	2419
60	4206	2513
55	3873	2587
50	3629	2643
45	3446	2693

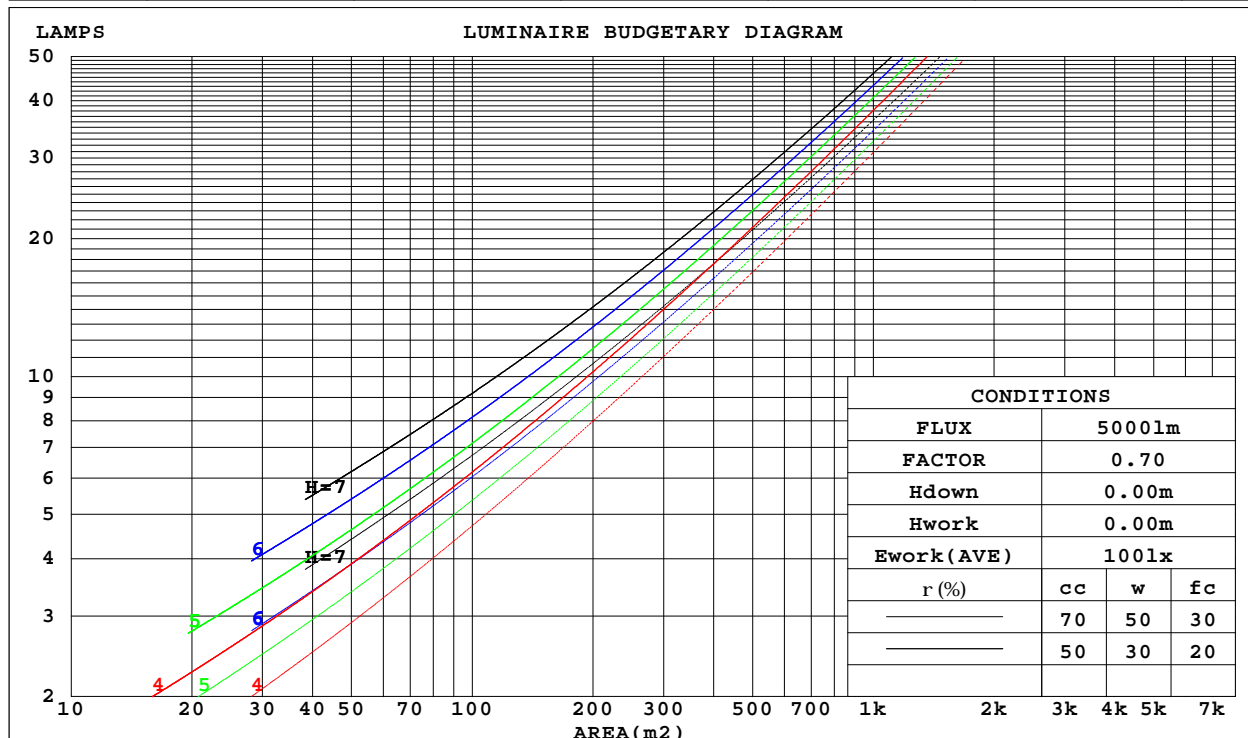
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

r <sub>cc</sub>	80%			70%			50%			30%			10%			0
r <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:COLORS  
 Test Date:2019-07-01

g Range: 0 - 180DEG  
 g Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:10.750m [K=1.0000]  
 Remarks:

### WEC AND CCEC

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

rcc	80%	70%	50%	30%	10%	0
rw	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
rfc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio Wall Exitance Coefficients(WEC)					
0.0						
1.0	.377 .214 .068	.364 .208 .066	.340 .195 .062	.318 .183 .059	.298 .173 .056	
2.0	.329 .180 .055	.317 .175 .054	.295 .164 .051	.275 .155 .048	.257 .145 .046	
3.0	.293 .156 .047	.283 .151 .046	.263 .143 .043	.245 .134 .041	.228 .126 .039	
4.0	.264 .137 .040	.255 .133 .039	.237 .126 .038	.221 .118 .036	.205 .112 .034	
5.0	.241 .123 .036	.232 .119 .035	.216 .112 .033	.201 .106 .032	.187 .100 .030	
6.0	.221 .111 .032	.213 .108 .031	.198 .102 .030	.184 .096 .028	.172 .090 .027	
7.0	.204 .101 .029	.197 .098 .028	.183 .093 .027	.171 .087 .025	.159 .082 .024	
8.0	.189 .092 .026	.183 .090 .025	.170 .085 .024	.159 .080 .023	.148 .076 .022	
9.0	.176 .085 .024	.170 .083 .023	.159 .079 .022	.148 .074 .021	.138 .070 .020	
10.0	.165 .079 .022	.160 .077 .021	.149 .073 .021	.139 .069 .020	.130 .065 .019	

rcc	80%	70%	50%	30%	10%	0
rw	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
rfc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio Ceiling Cavity Exitance Coefficients(CCEC)					
0.0	.331 .331 .331	.283 .283 .283	.193 .193 .193	.111 .111 .111	.035 .035 .035	
1.0	.326 .297 .270	.279 .255 .233	.191 .175 .161	.110 .101 .094	.035 .033 .030	
2.0	.320 .274 .236	.274 .236 .204	.188 .163 .142	.108 .095 .083	.035 .031 .027	
3.0	.312 .258 .214	.268 .222 .186	.184 .154 .130	.106 .090 .077	.034 .029 .025	
4.0	.304 .245 .200	.261 .212 .174	.180 .148 .122	.104 .086 .072	.033 .028 .024	
5.0	.297 .235 .190	.255 .204 .165	.176 .142 .117	.102 .083 .069	.033 .027 .023	
6.0	.289 .227 .183	.249 .197 .159	.172 .138 .113	.100 .081 .067	.032 .027 .022	
7.0	.282 .221 .178	.243 .191 .155	.168 .134 .110	.098 .079 .065	.032 .026 .022	
8.0	.276 .215 .174	.237 .187 .151	.164 .131 .107	.096 .077 .064	.031 .025 .021	
9.0	.270 .210 .171	.232 .183 .149	.161 .128 .106	.094 .076 .063	.030 .025 .021	
10.0	.264 .206 .168	.227 .179 .147	.158 .126 .104	.092 .075 .062	.030 .024 .021	

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm											
NAME: NNS1224					TYPE:			WEIGHT:			
SPEC.:NNS1224-0RGB24CSS050CC0100-G					DIM.: 1000*12*24mm			SERIAL No.:			
MFR.: Colors					SUR.:1000*12			Shielding Angle:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions	Viewed crosswise					Viewed endwise					
x = 2H y = 2H	23.2	24.5	23.7	25.0	25.6	21.3	22.7	21.9	23.2	23.8	
	3H	25.8	27.1	26.4	27.6	28.2	22.9	24.2	23.5	24.7	25.3
	4H	27.3	28.5	27.9	29.0	29.7	23.5	24.7	24.1	25.3	25.9
	6H	28.9	30.1	29.5	30.6	31.3	24.0	25.1	24.6	25.7	26.4
	8H	29.9	31.0	30.5	31.5	32.2	24.2	25.2	24.7	25.8	26.5
	12H	31.0	32.0	31.6	32.6	33.3	24.2	25.3	24.9	25.9	26.6
4H	2H	23.7	24.9	24.3	25.4	26.1	22.4	23.6	22.9	24.1	24.7
	3H	26.5	27.6	27.1	28.2	28.9	24.2	25.2	24.8	25.8	26.5
	4H	28.2	29.1	28.8	29.7	30.5	25.0	26.0	25.6	26.6	27.3
	6H	30.0	30.9	30.7	31.5	32.3	25.7	26.5	26.3	27.2	27.9
	8H	31.1	31.9	31.7	32.5	33.3	25.9	26.7	26.6	27.4	28.1
	12H	32.3	33.1	33.0	33.7	34.5	26.1	26.8	26.8	27.5	28.3
8H	4H	28.4	29.2	29.1	29.9	30.7	25.9	26.7	26.5	27.3	28.1
	6H	30.5	31.2	31.2	31.9	32.7	26.9	27.5	27.6	28.2	29.0
	8H	31.8	32.4	32.5	33.1	33.9	27.3	27.9	28.0	28.6	29.5
	12H	33.3	33.8	34.0	34.5	35.4	27.7	28.2	28.4	28.9	29.8
12H	4H	28.5	29.2	29.1	29.9	30.7	26.1	26.9	26.8	27.5	28.3
	6H	30.6	31.2	31.3	32.0	32.8	27.3	27.9	28.0	28.6	29.5
	8H	32.0	32.5	32.7	33.2	34.1	27.9	28.5	28.7	29.2	30.0
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.5					

CIE Pub.117, 157.4 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -6.4)

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

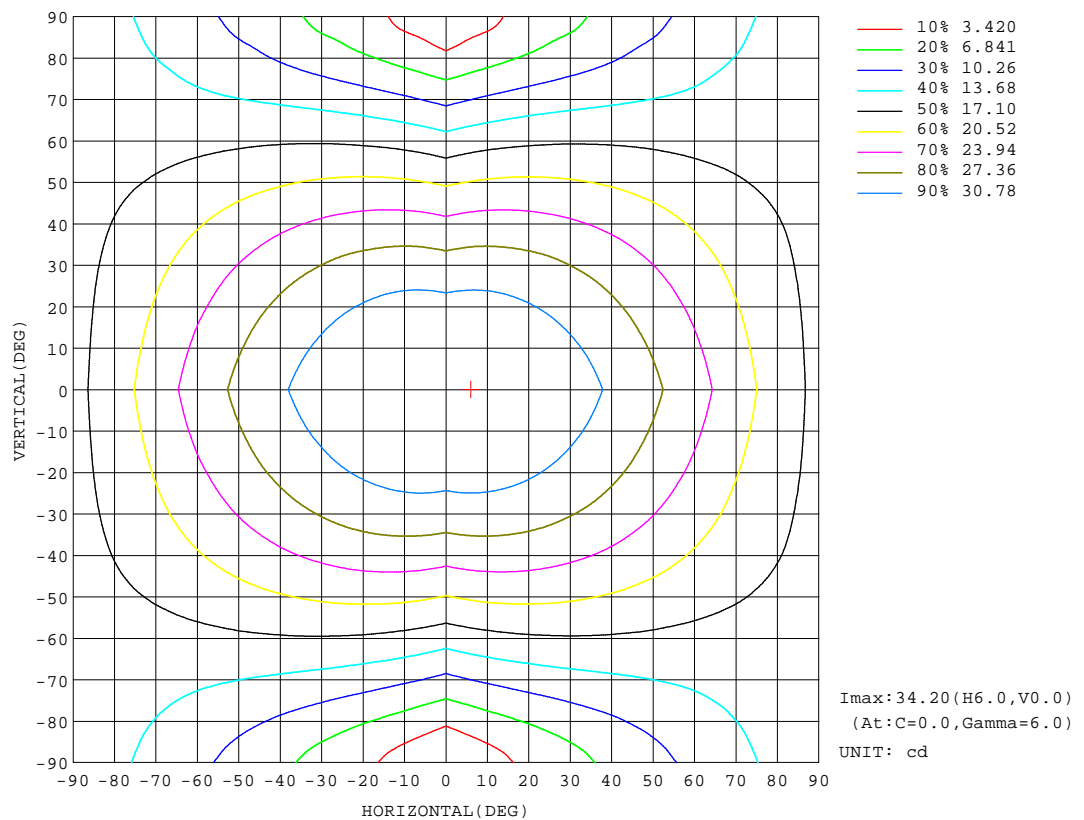
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	28	47	35	28	45	34	28	21
0.80	57	44	36	56	43	36	53	42	35	27
1.00	65	52	44	63	51	43	59	51	42	33
1.25	72	59	51	69	58	50	65	55	48	39
1.50	77	65	56	74	63	55	69	60	53	43
2.00	84	73	65	81	71	64	75	67	61	49
2.50	89	79	71	85	76	69	79	72	66	53
3.00	92	83	76	89	81	74	82	75	70	56
4.00	97	89	83	93	86	80	86	80	76	61
5.00	100	93	88	96	90	85	88	84	79	64
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: COLORS  
Test Date: 2019-07-01

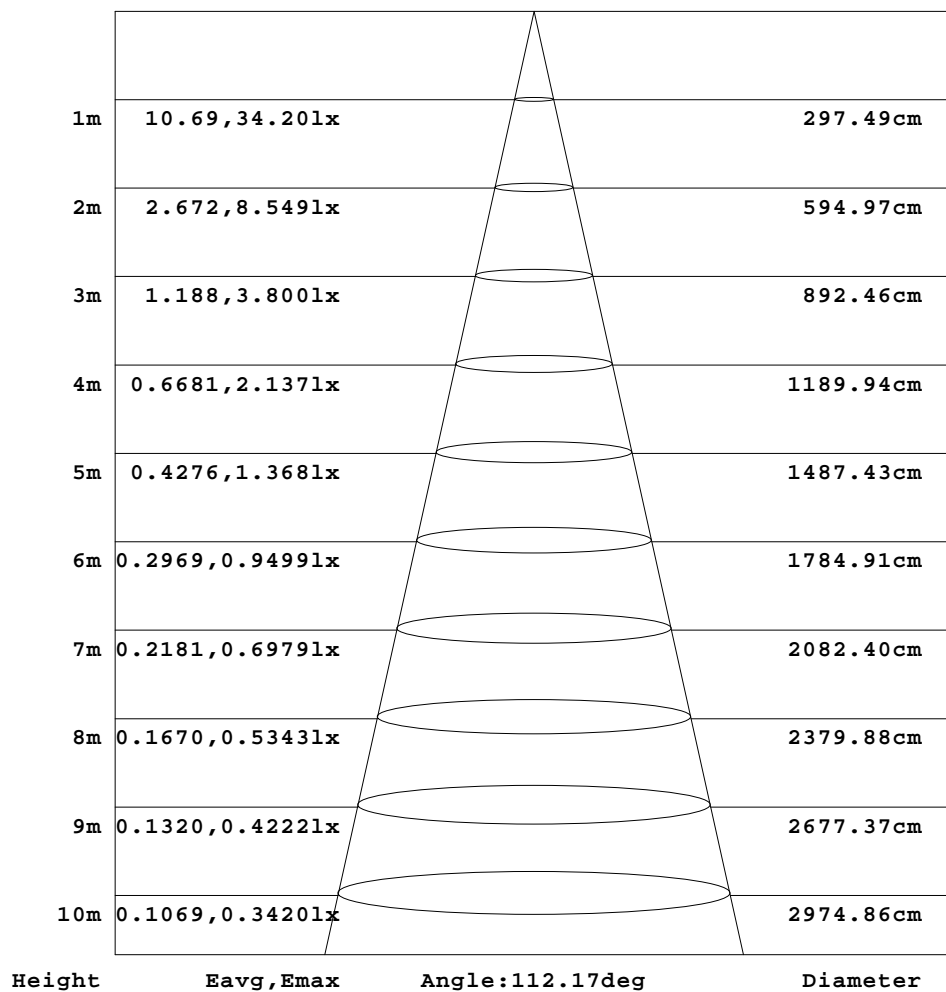
Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 10.750m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Flux out:79.63 lm



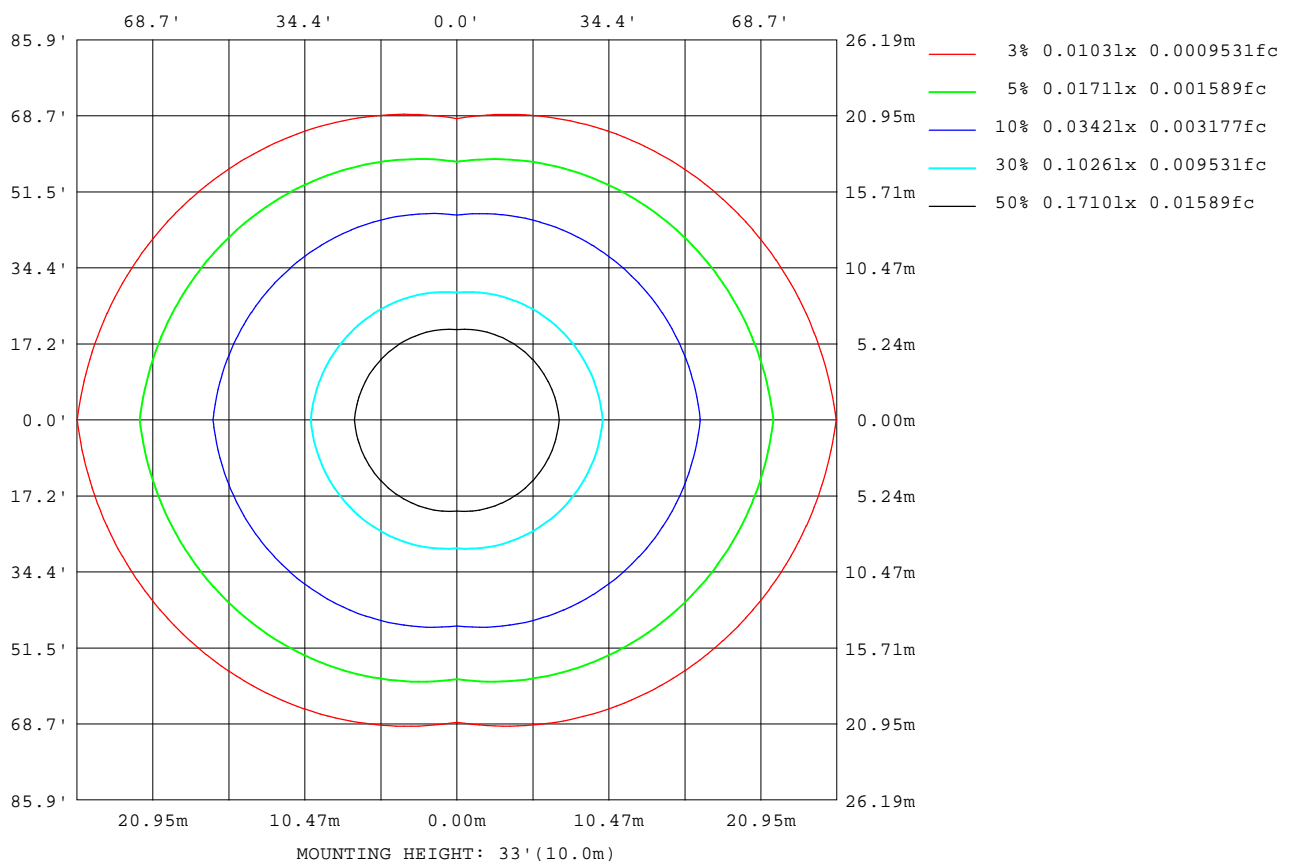
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

### ISOLUX DIAGRAM

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

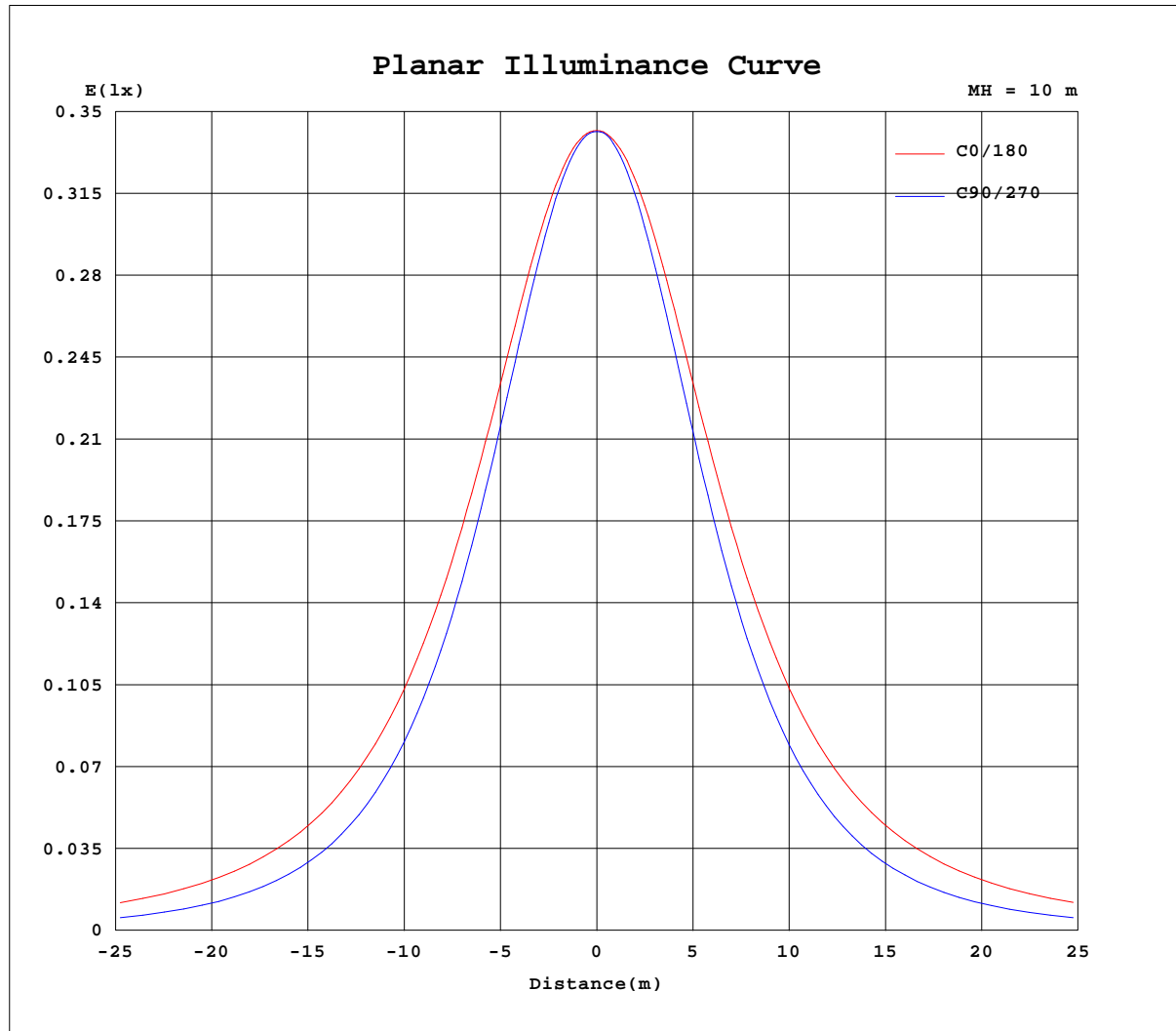
AvgL	cd/m2
L_0~180(65)av	4685
L_0~180(75)av	6621
L_0~180(85)av	16767
L_90~270(65)av	2406
L_90~270(75)av	2138
L_90~270(85)av	1989
L_45(65)av	3262
L_45(75)av	3820
L_45(85)av	7529

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: COLORS  
Test Date: 2019-07-01

Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 10.750m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.1840A P:4.400W PF:1.000 Freq:0Hz Lamp Flux:157.382x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-G	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	34.2	34.2	34.2	34.2															
5	34.2	34.1	34.2	34.0															
10	34.1	33.7	34.1	33.5															
15	33.9	32.9	33.9	32.7															
20	33.5	31.9	33.5	31.6															
25	32.9	30.6	32.9	30.3															
30	32.2	29.0	32.2	28.6															
35	31.3	27.2	31.4	26.8															
40	30.3	25.1	30.4	24.7															
45	29.2	22.8	29.3	22.5															
50	28.0	20.4	28.1	20.0															
55	26.7	17.8	26.7	17.5															
60	25.2	15.1	25.3	14.9															
65	23.7	12.3	23.8	12.1															
70	22.1	9.44	22.2	9.37															
75	20.5	6.62	20.6	6.66															
80	19.0	4.02	19.0	4.15															
85	17.6	1.83	17.5	2.33															
90	16.2	0.60	16.1	1.09															
95	15.0	0.22	14.8	0.29															
100	14.0	0.12	13.7	0.14															
105	12.9	0.14	12.7	0.14															
110	11.2	0.19	10.6	0.15															
115	9.40	0.23	9.36	0.19															
120	9.09	0.26	9.14	0.19															
125	8.08	0.30	8.29	0.23															
130	7.13	0.33	7.37	0.28															
135	6.16	0.35	6.32	0.29															
140	5.28	0.37	5.22	0.31															
145	4.49	0.41	4.29	0.37															
150	3.76	0.43	3.48	0.39															
155	2.78	0.46	2.75	0.41															
160	2.09	0.53	1.98	0.48															
165	1.46	0.57	0.99	0.50															
170	0.56	0.60	0.72	0.58															
175	0.54	0.61	0.51	0.60															
180	0.53	0.61	0.50	0.60															

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-07-01

g Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.750m [K=1.0000]  
Remarks: